

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (ORIGINAL): Highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers.

Claim 2 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 1 wherein said polymer forms micro-beads.

Claim 3 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 1 wherein said polymer forms amorphous masses.

Claim 4 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 2 wherein said micro-beads have diameters ranging from approximately 1  $\mu\text{m}$  to approximately 100  $\mu\text{m}$ .

Claim 5 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 2 wherein said micro-beads have pores.

Claim 6 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 5 wherein said micro-beads have pores ranging in size from approximately 5 to 500,000 Å.

Claim 7 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 3 wherein said amorphous masses have pores.

Claim 8 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymers of claim 3 wherein said amorphous masses have pores ranging in size from approximately ranging from 5 to 500,000 Å.

Claim 9 (CURRENTLY AMENDED): A highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated pentaethylene hexamine derivatized form of polydivinylbenzene according to claims ~~1 thru 8~~ 1, 2, 3, 4, 5, 6, 7 or 8.

Claim 10 (CURRENTLY AMENDED): A highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible methoxymethyl-protected monodiazoniumdiolate of piperazine derivatized form of polydivinylbenzene according to claims ~~1 thru 8~~ 1, 2, 3, 4, 5, 6, 7 or 8.

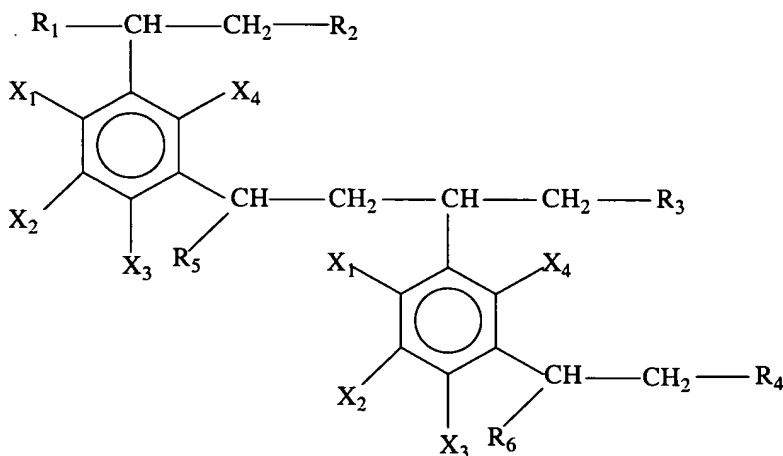
Claim 11 (CURRENTLY AMENDED): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 9 ~~or 10~~ further comprising a micro-bead having a diameter ranging from 1 µm to approximately 100 µm.

Claim 12 (CURRENTLY AMENDED): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 9 ~~or 10~~ further comprising a micro-bead having pores ranging in size from approximately ranging from 5 to 500,000 Å.

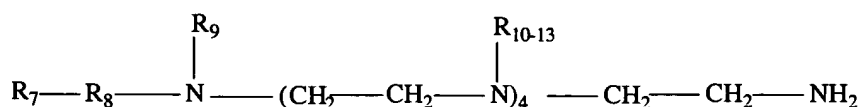
Claim 13 (Currently Amended): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 9 ~~or 10~~ further comprising amorphous masses having pores ranging in size from approximately ranging from 5 to 500,000 Å.

Claim 14 (ORIGINAL): A highly cross-linked, extremely hydrophobic nitric oxide releasing biocompatible polymer wherein said biocompatible polymer is a polyamine derivatized form of polydivinylbenzene having the general formula:

(1)



wherein  $R_1$  through  $R_4$  are the same or different and may be H, phenyl, benzyl, vinylbenzene, divinylbenzene un-substituted and substituted alkyl and substituted and un-substituted aryl groups,  $X_{1-4}$  are same or different and may be H, a halogen, an un-substituted or substituted alkyl and substituted or unsubstituted aryl groups providing that the resulting polymeric backbone remains hydrophobic and wherein at least one of  $R_5$  and  $R_6$  is:



wherein  $R_7$  is a hydrophobic polymer backbone,  $R_8$  may be nothing or a  $C_{1-12}$  unbranched or branched alkyl group and  $R_{9-13}$  may be H or  $N_2O_2^-$  providing that at least one of  $R_{9-13}$  is  $N_2O_2^-$ .

Claim 15 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said polymer forms micro-beads.

Claim 16 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said polymer forms amorphous masses.

Claim 17 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said micro-beads have diameters ranging from approximately 1  $\mu\text{m}$  to approximately 100  $\mu\text{m}$ .

Claim 18 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said micro-beads have pores.

Claim 19 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said micro-beads have pores ranging in size from approximately 5 to 500,000  $\text{\AA}$ .

Claim 20 (ORIGINAL): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 14 wherein said amorphous masses have pores ranging in size from approximately 5 to 500,000  $\text{\AA}$ .

Claim 21 (CURRENTLY AMENDED): A therapeutic agent comprising the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claim 22 (CURRENTLY AMENDED): A medical device comprising a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymer, said medical device selected from the group consisting of stents, vascular grafts, pacemaker leads, heart valves, electrodes, sensors, trocars, guide wires, catheters, penile implants, condoms, tampons, sanitary napkins, ocular lenses, sling materials, sutures, wound dressings/bandages, blood collection bags and storage tubes, tubing used for blood transfusions and hemodialysis, and the like according to any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claim 23 (CURRENTLY AMENDED): A medical device coating comprising a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymer, said medical device coating selected from the group consisting of stents, vascular grafts, pacemaker leads, heart valves, electrodes, sensors, trocars, guide wires, catheters, penile implants, condoms,

tampons, sanitary napkins, ocular lenses, sling materials, sutures, wound dressings/bandages, blood collection bags and storage tubes, tubing used for blood transfusions and hemodialysis, and the like according to any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claim 24 (CURRENTLY AMENDED): A therapeutic agent comprising the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymers according to any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claim 25 (CURRENTLY AMENDED): A medical device comprising a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymer, said medical device selected from the group consisting of stents, vascular grafts, pacemaker leads, heart valves, electrodes, sensors, trocars, guide wires, catheters, penile implants, condoms, tampons, sanitary napkins, ocular lenses, sling materials, sutures, wound dressings/bandages, blood collection bags and storage tubes, tubing used for blood transfusions and hemodialysis, and the like according to any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claim 26 (CURRENTLY AMENDED): A medical device coating comprising a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymer, said medical device coating selected from the group consisting of stents, vascular grafts, pacemaker leads, heart valves, electrodes, sensors, trocars, guide wires, catheters, penile implants, condoms, tampons, sanitary napkins, ocular lenses, sling materials, sutures, wound dressings/bandages, blood collection bags and storage tubes, tubing used for blood transfusions and hemodialysis, and the like according to any one of claims ~~1 through 8 or 14 through 20~~ 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 16, 17, 18, 19 or 20.

Claims 27-32 (CANCELLED)

Claim 33 (PREVIOUSLY PRESENTED): A method for treating infections in a human or an animal comprising:

providing a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymer comprising a stent, trocar, guide wire, tampon, sanitary napkin, wound dressing/bandage, vascular graft or suture, and  
administering said polymer to a human or an animal.

Claim 34 (CURRENTLY AMENDED): A method for inhibiting or treating ~~preventing~~ blood coagulation and maintaining an aseptic environment during blood transfusions, hemodialysis, and the administration of other blood components via tubing for a human or an animal comprising:

blending or co-polymerizing tubing with highly cross-linked, extremely hydrophobic biocompatible polydiazoniumdiolated polymers.

Claim 35 (ORIGINAL) A method for storing mammalian blood thrombocytes comprising a collection and storage device that prevents blood coagulation and maintains an aseptic environment for human or animal blood comprising:

collecting fresh blood;  
separating said thrombocytes from said blood;  
placing said isolated thrombocytes into a blood storage bag comprising a highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymer.

Claim 36 (PREVIOUSLY PRESENTED): The medical device according to claim 25 wherein said extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polymer is a polyamine-functionalized polymer.

Claim 37 (PREVIOUSLY PRESENTED): The medical device according to claim 36 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer forms micro-beads.

Claim 38 (PREVIOUSLY PRESENTED): The medical device according to claim 36 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer forms amorphous masses.

Claim 39 (PREVIOUSLY PRESENTED): The medical device according to claim 37 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer micro-beads have diameters ranging from approximately 1  $\mu\text{m}$  to approximately 100  $\mu\text{m}$ .

Claim 40 (PREVIOUSLY PRESENTED): The medical device according to claim 37 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer micro-beads have pores.

Claim 41 (PREVIOUSLY PRESENTED): The medical device according to claim 37 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer micro-beads have pores ranging in size from approximately 5 to 500,000  $\text{\AA}$ .

Claim 42 (PREVIOUSLY PRESENTED): The medical device according to claim 38 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer amorphous masses have pores.

Claim 43 (PREVIOUSLY PRESENTED): The medical device according to claim 38 wherein the highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polydiazoniumdiolated polyamine-functionalized polymer amorphous masses have pores ranging in size from approximately ranging from 5 to 500,000  $\text{\AA}$ .

Claim 44 (PREVIOUSLY PRESENTED): The medical device according to claim 25 wherein said medical device is selected from the group consisting of stents, vascular grafts, pacemaker leads, heart valves, electrodes, sensors, trocars, guide wires, catheters, penile

implants, condoms, tampons, sanitary napkins, ocular lenses, sling materials, sutures, wound dressings/bandages, blood collection bags, storage tubes, and tubing.

Claim 45 (NEW): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 10 further comprising a micro-bead having a diameter ranging from 1  $\mu\text{m}$  to approximately 100  $\mu\text{m}$ .

Claim 46 (NEW): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 10 further comprising a micro-bead having pores ranging in size from approximately ranging from 5 to 500,000 Å.

Claim 47 (NEW): The highly cross-linked, extremely hydrophobic nitric oxide-releasing biocompatible polymers of claim 10 further comprising amorphous masses having pores ranging in size from approximately ranging from 5 to 500,000 Å.